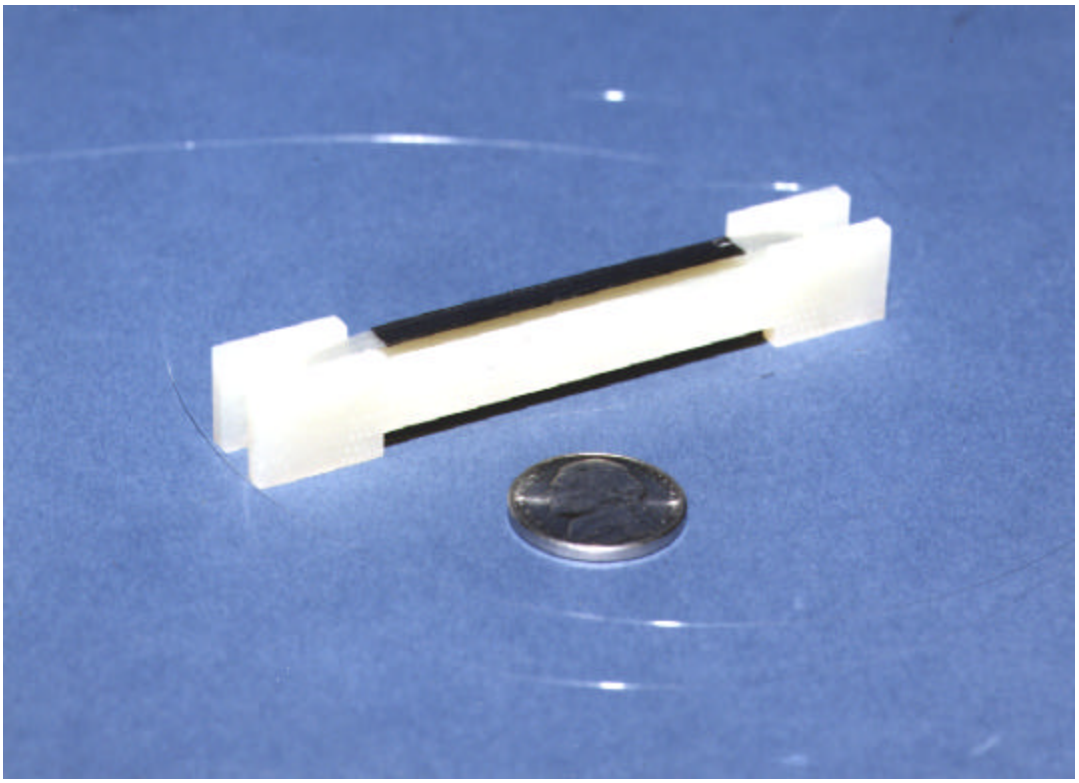
FIBER OPTIC MAGNETIC FIELD SENSORS



The Naval Research Laboratory has developed a family of fiber optic sensors for measuring magnetic fields using optical fiber interferometer technology and a material property known as magnetostriction. The sensors can detect magnetic signals over a wide range of frequencies and amplitudes. The sensors are robust, manufacturable and can be incorporated with other fiber optic sensors to form multiple sensor arrays. Systems incorporating this technology have been operated in field environments.

Features and advantages include:

- Wide range of measurement frequencies: dc to >1 GHz
- Large dynamic range: 1– $<10^{-8}$ Gauss
- Easily multiplexed or configured into sensor arrays
- Compatible with other fiber optic sensors and fiber optic telemetry systems

Applications include:

- All-weather detection and tracking of vehicles
- Vehicle identification
- Monitoring ambient magnetic conditions, e.g. for public safety or industrial hygiene purposes
- Harbor, airport runway, and highway traffic control

Licenses are available to companies with commercial interest.

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